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CLAIMS

What is claimed is:

1. A transmitter having programmable transmission parameters temporally aligned with a payload signal,
10 said transmitter comprising:
 an upstream module for receiving an input signal from a signal source, generating a processed signal from said input signal, and mingling said programmable transmission parameters with said processed signal to
15 form a compound signal;
 an intra-transmitter signal transporter having an input coupled to said upstream module and configured to transport said compound signal to an output of said intra-transmitter signal transporter; and
20 a downstream module having an input coupled to said intra-transmitter signal transporter output, said downstream module being configured to extract said programmable transmission parameters from said compound signal to recover said processed signal and to convert
25 said processed signal into a communication signal configured in accordance with said programmable transmission parameters.
2. A transmitter as claimed in claim 1 wherein:
30 said upstream module is one of a plurality of upstream modules each of which couples to said intra-transmitter signal transporter;
 said downstream module is one of a plurality of downstream modules each of which couples to said intra-
35 transmitter signal transporter; and
 said compound signal is one of a plurality of compound signals transported by said intra-transmitter signal transporter.

5 11. In a communication system in which a
transmitter transmits a communication signal to one or
more receivers in accordance with one or more
communication protocols, a method of forming said
communication signal in response to programmable
10 transmitter parameters that are temporally aligned with
payload information, said method comprising:

generating a processed signal from an input signal
which conveys said payload information;

mingling said programmable transmission parameters
15 with said processed signal to form a compound signal;

transporting said compound signal from an upstream
module to a downstream module;

extracting said programmable transmission
parameters from said compound signal in said downstream
20 module to recover said processed signal; and

converting said recovered processed signal into
said communication signal, said communication signal
being configured in accordance with said programmable
transmission parameters.

25 12. A method as claimed in claim 11 wherein said
transporting activity causes said compound signal to
experience varying amounts of delay.

30 13. A method as claimed in claim 11 additionally
comprising, prior to said extracting activity, delaying
said compound signal in a first-in-first-out (FIFO)
memory buffer which imposes varying delays on said
compound signal.

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5 14. A method as claimed in claim 11 wherein said
converting activity comprises modulating a carrier
signal, said carrier signal exhibiting a frequency
specified by said programmable transmission parameters.

10 15. A method as claimed in claim 11 wherein said
converting activity comprises modulating a carrier
signal which is keyed as specified by said programmable
transmission parameters.

15 16. A method as claimed in claim 11 wherein:
said input signal is a digital data stream;
said generating activity is performed by a digital
communication modulator which modulates said input
signal in accordance with a phase constellation to
20 produce said processed signal in a digital form; and
said converting activity comprises converting said
recovered processed signal so that said communication
signal exhibits an analog form.

25 17. A method as claimed in claim 16 wherein:
said digital communication modulator is programmed
to apply first modulation functions to said digital
data stream and impose a first transport delay on said
digital data stream; and
30 said method additionally comprises reprogramming
said digital communication modulator to apply second
modulation functions to said digital data stream and
impose a second transport delay on said digital data
stream, said second transport delay differing from said
35 first transport delay.

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SECRET

5 19. A radio frequency (RF) transmitter for use in
a communication system in which said RF transmitter
transmits first and second communication signals to one
or more receivers in accordance with one or more
communication protocols, said transmitter comprising:
10 a first software-programmable upstream module
programmed to apply first digital communication
modulation functions to a first input signal and to
generate a first processed signal which exhibits a
first transport delay relative to said first input
15 signal, said first upstream module having a first
upstream connector and being configured to mingle first
programmable transmission parameters with said first
processed signal to form a first compound signal which
passes through said first upstream connector; and
20 a second software-programmable upstream module
programmed to apply second digital communication
modulation functions to a second input signal and to
generate a second processed signal which exhibits a
second transport delay relative to said second input
25 signal, said second upstream module having a second
upstream connector and being configured to mingle
second programmable transmission parameters with said
second processed signal to form a second compound
signal which passes through said second upstream
30 connector.

5 20. An RF transmitter as claimed in claim 19
further comprising:

an intra-transmitter signal transporter having a
first input coupled to said first connector and a
second input coupled to said second connector, said
10 intra-transmitter signal transporter being configured
to respectively transport said first and second
compound signals to first and second outputs of said
intra-transmitter signal transporter, said first and
second compound signals being transported with varying
15 amounts of delay;

a first downstream module having a first downstream
connector coupled to said first output of said intra-
transmitter signal transporter, said first downstream
module being configured to extract said first
20 programmable transmission parameters from said first
compound signal to recover said first processed signal
and to convert said first processed signal into said
first communication signal configured in accordance
with said first programmable transmission parameters;
25 and

a second downstream module having a second
downstream connector coupled to said second output of
said intra-transmitter signal transporter, said second
downstream module being configured to extract said
30 second programmable transmission parameters from said
second compound signal to recover said second processed
signal and to convert said second processed signal into
said second communication signal configured in
accordance with said second programmable transmission
35 parameters.

